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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/325,119	06/03/1999	PHILIP P. CARVEY	AVI99-02	2433
21005	7590 12/31/2003		EXAMI	NER
HAMILTON, BROOK, SMITH & REYNOLDS, P.C.			SINGH, DALZID E	
530 VIRGINIA ROAD P.O. BOX 9133		ART UNIT	PAPER NUMBER	
CONCORD, MA 01742-9133		2633		
		· ·	DATE MAILED: 12/31/2003	15

Please find below and/or attached an Office communication concerning this application or proceeding.

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	Application No.	Applicant(s)			
	09/325 <sub>,:</sub> 119	CARVEY ET AL.			
Office Action Summary	Examiner	Art Unit			
·	Dalzid Singh	2633			
The MAILING DATE of this communication app Period for Reply	ears on the cover sheet with the o	correspondence address			
A SHORTENED STATUTORY PERIOD FOR REPLY THE MAILING DATE OF THIS COMMUNICATION.  - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication.  - If the period for reply specified above is less than thirty (30) days, a reply - If NO period for reply is specified above, the maximum statutory period w - Failure to reply within the set or extended period for reply will, by statute, - Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).  Status	36(a). In no event, however, may a reply be ting within the statutory minimum of thirty (30) day will apply and will expire SIX (6) MONTHS from cause the application to become ABANDONE	nely filed vs will be considered timely. the mailing date of this communication. ED (35 U.S.C. § 133).			
1)⊠ Responsive to communication(s) filed on <u>25 Ju</u>	ıly_2003.				
	action is non-final.				
Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.					
Disposition of Claims					
<ul> <li>4) ☐ Claim(s) 1-8,11-20 and 23-25 is/are pending in 4a) Of the above claim(s) is/are withdraw</li> <li>5) ☐ Claim(s) is/are allowed.</li> <li>6) ☐ Claim(s) 1-8,11-20 and 23-25 is/are rejected.</li> <li>7) ☐ Claim(s) is/are objected to.</li> <li>8) ☐ Claim(s) are subject to restriction and/or</li> </ul>	vn from consideration.				
Application Papers					
9) The specification is objected to by the Examine	r.				
10) The drawing(s) filed on is/are: a) □ accepted or b) □ objected to by the Examiner.					
Applicant may not request that any objection to the					
Replacement drawing sheet(s) including the correcti					
11) The oath or declaration is objected to by the Ex	aminer. Note the attached Office	Action or form PTO-152.			
Priority under 35 U.S.C. §§ 119 and 120					
12) Acknowledgment is made of a claim for foreign a) All b) Some * c) None of:  1. Certified copies of the priority documents 2. Certified copies of the priority documents 3. Copies of the certified copies of the prior application from the International Bureau * See the attached detailed Office action for a list of since a specific reference was included in the first 37 CFR 1.78.  a) The translation of the foreign language pro 14) Acknowledgment is made of a claim for domestic reference was included in the first sentence of the	s have been received. s have been received in Application of the certified copies not received priority under 35 U.S.C. § 1190 st sentence of the specification of the certified copies not received priority under 35 U.S.C. § 1200 visional application has been received priority under 35 U.S.C. §§ 1200 copies not received priority under 35 U.S.C. §§ 1	ion No ed in this National Stage ed. e) (to a provisional application) r in an Application Data Sheet. eeived. and/or 121 since a specific			
Attachment(s)					
1) Motice of References Cited (PTO-892) 2) Motice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s)	5) D Notice of Informal F	(PTO-413) Paper No(s) Patent Application (PTO-152)			

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#### **DETAILED ACTION**

## Claim Rejections - 35 USC § 103

- 1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 2. Claims 1-8, 11-20 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shively (US Patent No. 5,978,370) in view of Lahat et al (US Patent No. 6,417,944).

Regarding claims 1, 13 and 25, Shively disclose switching system, shown in Fig. 1 comprising:

a plurality of inputs and output (as shown in Fig. 6, the switch (61) comprises plurality of input port (for example, arrows shown going to the switch) and output port (arrows shown going out of the switch);

switch that operate with a schedule not directly determined by the input stream (see col. 9, lines 9-46 and col. 10, lines 26-57, Shively teaches that the data cell is buffered and rearranged by TSI (time slot interchange), using scheduling algorithm, therefore the switch operate with a schedule not directly determined by the input stream); and,

a plurality of reordering units that rearrange the order of data units within data streams to correspond to the schedule of the switch (as shown in Fig. 6, TSI connected to the switch can be considered as ordering units; see col. 9, lines 9-46 and col. 10,

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lines 26-57, Shively teaches that the stored data cell within TSI are ordered using scheduling algorithm).

Although Shively teaches the use of switch, however, Shively does not teach the use of optical switch. Lahat et al is cited to show the use of optical switch (see Fig.1). . Since the use of optical switch is well known, as evidenced by Lahat et al, therefore it would have been obvious to an artisan of ordinary skill in the art to provide the optical switch as taught by Lahat et al to the switching system of Shively. One of ordinary skill in the art would have been motivated to do this, since optical switch allows high bandwidth transmission and increase data transmission rate.

Regarding claims 2, 5, 14 and 17, the switch of Shively as disclosed above performs switching function wherein a plurality of inputs is connected to a plurality of outputs. It would have been obvious to call the switch of Shively as a crossbar or multistage interconnection since these switches have the same functionality, which is to transfer a plurality of data signal from various points (sources) of the input to various points (destination) of the output in order to correctly route data signals from source to destination.

Regarding claims 3, 4, 15 and 16, as cited in col. 9, lines 38-41, Shively teaches the use of input buffer and output buffer (buffers are within the TSI unit which is connected to input and output of the switch), which are controlled by scheduling algorithm to avoid collision of data signal (see col. 9, lines 9-46 and col. 10, lines 26-57).

Regarding claims 6 and 18, Shively teaches the use of time-slot interchanger (see col. 9, lines 9-30) to reorder data signals.

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Regarding claims 7 and 19, as discussed above, the data signal is buffered and arranged, therefore it would have been obvious to provide the first input as the first output (FIFO).

Regarding claims 8 and 20, as cited in col. 9, lines 38-41, Shively teaches a dual port memory (two banks of memory).

Regarding claims 11 and 23, since data cells are buffered and transmitted using a scheduling algorithm, there must be a controller to control operation of the system.

Regarding claims 12 and 24, as discussed above, Shively teaches buffer modules, and there must be a controller which set up connection to schedule transmission of data cells to the switch (see col. 9, lines 9-46 and col. 10, lines 26-57).

## Response to Arguments

3. Applicant's arguments with respect to claims 1, 6-8, 13, 18-20 and 25 have been considered but are most in view of the new ground(s) of rejection.

#### Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Aybay (US Patent No. 6,185,221) is cited to show method and apparatus for fair and efficient scheduling of variable-sized data packets in an input-buffered multipoint switch.

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Any inquiry concerning this communication or earlier communications from the 5. examiner should be directed to Dalzid Singh whose telephone number is (703) 306-5619. The examiner can normally be reached on Mon-Fri 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

DS

December 20, 2003

M.R. SEDIGHIAN
Patent Examiner

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